

PATHWAYS

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NATURE CRAFT

The world of nature is fascinating to observe. With proper guidance, children will take notice of texture and shape in the world around them. They must be encouraged to treasure the beauty and usefulness of leaves, seeds, shells and even pine cones. Some of the projects outlined here are simple activities that may be done at the end of a science lesson; others may be assigned as a part of holiday homework. Any creative activity, after all, makes learning more enjoyable.

1. Carrot Top Karim :

This activity may be related to the topic of vegetative propagation. Cut 5 - 10 cm off the top of a carrot. Remove the leaves, if any. Set the carrot upside down in a saucer containing a little water. Change the water often.

After roots start appearing, plant the carrot cut side down in a can containing moist soil. Place it on a window sill where it gets ample sunshine.

After a few days, cover the exterior of the can with yellow or orange glazed paper. Using a contrast colour, cut out and paste on eyes and other features. Fix a paper crown in place, to mask the carrot top. Gradually you will notice a green tuft growing on Karim's head.

Instead of the carrot, use soaked wheat or paddy grains and notice the difference in Karim's expression. Is he frightened or is he frowning?



2. Fun with Shells

A. *Walnut shell* halves form the bodies of these animals. Paste a thick paper at the base of the empty shells. Cut head, tail and other features from drawing paper or velvet paper and glue on. Apply a coat of red paint and when it is dry, add black spots, to make ladybird beetles.



B. The empty halves of *coconut shells* can form the base of attractive bowls in which snacks may be served. Scrape off the outer fibres completely using sandpaper. Apply a bright coloured *Fevicryl* fabric paint to both sides of the shell. When dry glue on an old plastic bottle to provide a better balanced base. Paste *zari* or lace along the rim of the shell. Other decorations could be painted patterns or small pieces of mirror glued on. A lid for this bowl could be made using the other half of the coconut shell. The cap of a toothpaste tube provides the knob on the top.

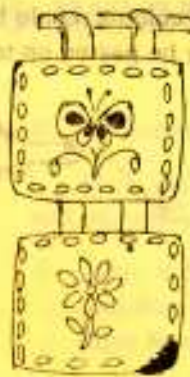
Carefully remove the two black eyes on the cleaned coconut shell. Paint it as desired, and use as a pencil / pen holder.

After a few days, cover the interior of the can with yellow or orange glazed paper. Using contact colour, cut out and paste on eyes and other features. Fix a paper crown in place, to mask the carrot top. Gradually you will notice the carrot growing on Karm's head.

Instead of the carrot, use a small toy figure and notice the difference in Karm's expression.



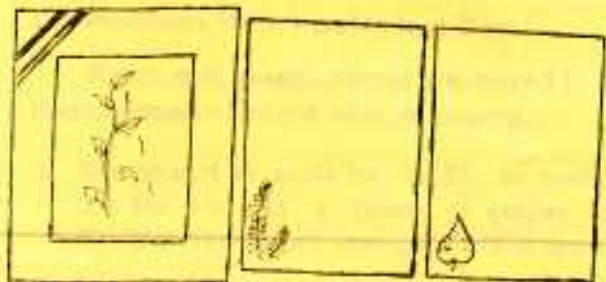
C. Decorate a wall hanging by glueing on halves of *almond shells* in the shape of flowers and butterflies. Cover an old picture frame with these halves and paint them as desired. Make a flower holder out of a scallop sea-shell by pasting a paper pocket on to it. Fill with real or paper flowers.



3. Greeting Cards and Decorated Stationery :

A lesson on leaf shapes and arrangements can be followed by this activity. Pressed leaves may be pasted on to a card in such a way that they can be seen through a clear cellophane window. The cards on which sticker *blinds* are sold could be used, if the arrangement is small. Information about the sample may be written at the back of the card. For example : "This is a sample of alternate / spiral / whorled arrangement of leaves" or "This is a compound leaf".

Letter pads, envelopes and other stationery can be decorated with leaf rubbings, by pasting on pressed flowers and leaves and by spray painting of delicate fern leaves as shown. The use of coloured hand-made paper opens up possibilities of several colour combinations.



4. Seed Ornaments :

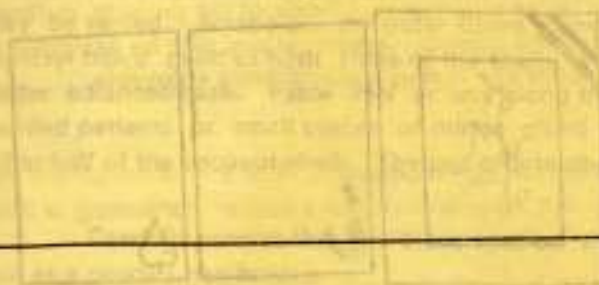
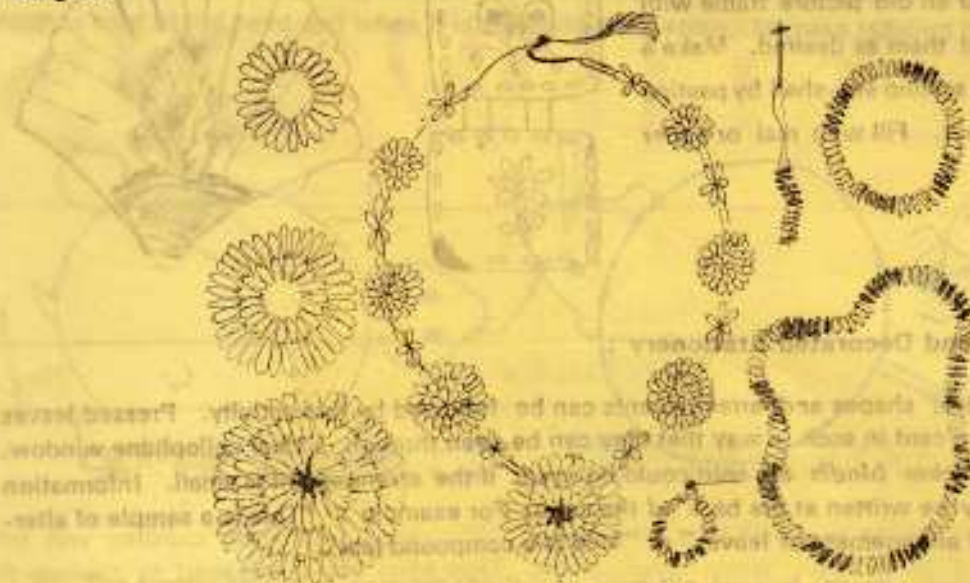
Collect the seeds of musk melon and clean them thoroughly. Put these seeds in a container, add a few drops of food colouring and shake well. Then spread the dyed seeds on a newspaper to dry properly. If desired, some seeds may be retained in their natural colour.

Cut out small cardboard discs. Paste a whorl of seeds along the circumference. After it has dried, paste two or more concentric whorls inside it, till the disc is covered with seeds.

A pink or golden star may be pasted at the centre of the disc. Large discs could become pendants and smaller ones put together to form a necklace.

The discs should be glued symmetrically on to a narrow tape. The space between the discs may be covered with more seeds in floral or other patterns. Finally stitch a string or cord on to either end of the tape to complete the necklace. It could be tied on or a bead can be fixed to make its length adjustable.

Seeds dyed in contrasting colours could be simply strung together to form a necklace or ear - tops. The string of seeds may be pasted on to a circular piece of elastic to make wrist bands or bangles.



— J. Syamala
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Can You Puzzle It Out ?

Inside each square you will find clues to a word. Under each square is another clue. Can you make out what these words are ?



a floor covering



not large



something special



a vegetable

Now see if you can make up similar clues, for these words. The verbal clues are given: cutter (a tool), cotton (a cloth), vanilla (an icecream flavour). Make up some more puzzles and try them out on your students.

HOW TO SOLVE MATHS WORD PROBLEMS—2

Here are two problems—or perhaps you would like to call them riddles :

- i. Is it correct to say : the yolk of an egg *is* white, or the yolk of an egg *are* white ?
- ii. Suppose you are a bus driver. You pick up 6 children at one stop and 3 at the next. At third stop, 4 children get on and 4 get off. Further on 5 children board and 3 get off. Just before your destination, 3 children get on and 1 gets off. What is the bus driver's name ?

Riddles often trap us because of tricky words. They may make us think of one thing when we should really be thinking of something else. So, when you meet riddles, you have to be on your toes.

Maths words problems may trap you in the same way. When you read a problem, you have to think about all the data and the unknowns. You have to decode the problem carefully and use each of the RILL steps described last time thoughtfully. Look out for five kinds of decoding traps :

- A. Problems that look alike
- B. Problem with too much data
- C. Problems with insufficient data
- D. Problems with hidden unknowns
- E. Problems with hidden operations.

A. Problems That Look Alike

Here are two examples :

- i. Anita cooked 4 *paranthas* and Rohan cooked two times as many. How many did Rohan cook ?
- ii. Anita heated 4 *paranthas* 2 times each. How many did she cook ? Notice that because the numbers are the same, it is possible to confuse the first answer (4×2) with the second (4).

B. Problems with Too Much Data

Find the irrelevant data in these examples and underline or circle it.

- i. John weighs 75 kg, Nancy weighs 63 kg and Susan weighs 59 kg. How much more does Nancy weigh than Susan ?
- ii. Three children found Rs. 96/-. Two of them are girls and one is a boy. They decide to share the money equally. How much does each get ?
- iii. Radha's hand is 14 cm long. Her arm is 20cm from wrist to elbow and 21 cm from elbow to shoulder. How long is her arm from wrist to shoulder ?

C. Problems With Insufficient Data :

Watch out; these cannot be solved ! In these examples find out what is missing.

- i. Sita bought an apple for Rs. 2/-, an orange for Rs. 1/- and a bunch of grapes for Rs. 5/-. How much change will she get ?
- ii. Mohan sells special quality crayons for Rs. 8/- per dozen and Ram decides to buy some. How much does he pay for his crayons?
- iii. Ranjit repairs 10 tyres daily. Sudhir gives him 3 for repair and pays with a Rs 100/- note. How much change should Sudhir get ?

D. Problems With A Hidden Unknown

In some problems the question tells you what you are looking for. In others there is no obvious question. What do you have to find ?

- i. Hari wants to find the area of his bedroom floor. It is 5m long and 3m wide.
- ii. Sunita can run 8 km in an hour. Find the number of kilometres she runs in 3 hours.

(Contd. on page 9)

THE WRITING EXPERIENCE

How does a teacher initiate the process of independent writing by students? This article makes some suggestions which readers might like to try out in the classrooms.

1. Start with something that the students have read about in class. Ask questions, initially about facts, later in ways that make your students think creatively. For example :

- * Suppose you are off on a trip to Assam to see the rhinoceros in its native habitat. What would you need to make the trip? How could you find out? How could you put this information into a travel article for your local newspaper?
- * Suppose you were the boy in the story, what would you have done?

How easily these questions could be converted into a composition exercise! But hold on a moment. There are some things you might have to do before the children can take out a piece of paper and start writing.

In the primary grades, composition should begin orally and spontaneously. Suppose they have read a story titled "The Shopping Trip", you could suggest that they make up a similar story, complete with all the difficulties the shopper might encounter. Encourage all members of your class to contribute something to the story and accept all contributions. Gradually these spontaneous story-making sessions can be modified and enriched. After the warm-up, two or three children can choose one of the story ideas and prepare to tell it to the class. Alternatively some may perform it as a puppet show. Another possibility is to continue the group story with the entire class, allowing some students to illustrate it, while you do some skillful, unobtrusive oral editing. As the story continues, you can ask questions to help the students organize and amplify it. There must be give and take-encouragement to take risks, to try out ideas, and

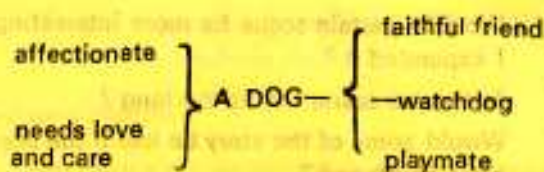
to alter the story when a "better" way is discovered.

2. Group stories, first composed orally, may be turned into dictated stories with the teacher writing on the board. Alternatively, the teacher can ask a series of carefully structured and sequenced questions to which students write individual answers in their notebooks, leading them to their first written compositions.

3. The teaching may be thought of a process of six inter-related stages: prewriting, drafting, responding, revising, editing and postwriting (evaluating and putting into final form). In this process, the writer draws upon his/her knowledge, experiences and language to express ideas. The development of thinking skills leads to clear and effective communication. By constant exposure to speaking, listening and other literary experiences students are provided with a language-rich environment in which to write.

a) Prewriting strategies stimulate the students into thinking about *why* they are writing and *who* their target audience will be. Before they formulate and organize ideas for their composition, they could be:

- * encouraged to *brainstorm* and share ideas, either in pairs or in small groups. A few basic rules must be followed during brainstorming sessions. Nobody should be left out, everyone must contribute and be given a fair amount of time to do so. Every idea must be listed, without passing judgement on it. At the end of the allotted time, students may review and evaluate what they wish to retain.
- * Students could be helped to collect their ideas in a *cluster*, and represent them *diagrammatically*. This provides them with a visual guide to their planning. For example :



- Another kind of visual representation is somewhat like a time line. It shows a sequence of events (problems and their solutions).
- Filling ideas into a chart might be another way of organizing information. This could involve sequencing or cause and effect relationships.
- Making lists or a word bank is another useful prewriting exercise, which can be carried out as a class exercise. The list might include nouns, verbs, adjectives and figures of speech. Such a word bank can help children select words that are vivid, clear and accurate.

Sometimes, at the primary level, providing a sentence frame helps children generate the word bank. For example :

A is a house for a
Students suggest appropriate words to fill in the blanks. The same idea can be used to generate a *clause bank*. For example : My story is about a dog that

- Quick, free writing is another technique to get students started. Get them to write down anything that comes to their mind about the topic, fill up a page, without stopping to think about what they have written. Review and selection of ideas follows later.

b) Drafting : The purpose of the first draft is to get ideas down on paper, as quickly and fluently as possible, with no concern for correctness. It is not the final product. Students should feel free to scratch out, scribble and make alterations in the first draft. It helps if they write on every other line, using the empty lines for revisions. Some of them tire quickly; let them take a

short break and then return to the task, reading over what they have written from a reader's point of view. This is part of a writer's craft. It can help to make the composition clear and interesting.

When the writer gets "stuck", a conference with the teacher, another student or a group of students may prove helpful.

c) Responding: is allowing classmates to read each other's work and offer suggestions for improvement, but is to be done *at the writer's invitation*. It provides the student contact with an audience and permits clarification of ideas and purposes. However, the audience must take care to start on a positive note, and couch suggestions in language that will not hurt the feelings of their classmate. This in itself could be a valuable practice in courtesy, and the careful use of language.

The two-way exchange can be helped along by questions. Here are a few samples :

Questions A Writer Can Ask An Audience :

- * What is the part you like best ?
- * How did you feel when?
- * How can I make you feel as if you were actually there ?
- * Where should I add more descriptive language?
- * Which parts don't I need ?
- * Which character would you like to know more about ?
- * Does my writing make you think that.....? Tell me why or why not ?

Questions An Audience Can Ask A Writer :

- * Tell me more about.....?
- * Can you explain why you ?
- * What is going to happen next.....?
- * How many parts do you have ?
- * Which part are you going to develop first ? Why ?

- * How are going to decide what parts you are to keep ?
- * What will you do with the other parts ?

d) **Revising** : The trial and error of the writing process is a form of revising. Some students do it as they go along, trying constantly to improve content, style, tone, unity, clarity and coherence. Others need help.

Generally revising needs to be taught - gradually. It is self-criticism with a constructive purpose; to go over one's writing so as to improve communication with the audience. It includes cutting unnecessary language, improving sentences and words that lack force or fail to say exactly what the writer intends. It may mean combining sentences, expansion or reduction.

For example : "My cat is pretty and brown. He can close his eyes. He can keep a secret." can become "My pretty brown cat can close his eyes, keeping a secret."

Expansion may include the addition of adjectives like "velvety, furry-footed" or even phrases : My pretty brown cat with ears that turn to hear a whisper

It is good for students to know that a sentence can be too long and that trite extra words are best removed.

The following questions may help students carry out revision. You may like to circulate a simplified list amongst your students :

Revising Story Structure :

- * Does my story start in an exciting place ?
- * Does someone in the story have a problem or a goal ?
- * Is there an interesting solution or attempt at a solution of the problem ?
- * Does my story have an ending ? Is the ending satisfying ?

- * Would a certain scene be more interesting if I expanded it ?
- * Is there a scene that is too long ?
- * Would some of the story be lost if the scene were shortened ?
- * Is the tone of the story appropriate for the purpose and audience ?

Revising Conversation :

- * Does the dialogue "sound" like spoken language ?
- * Is there conversation in my story that is just "filler," serving no purpose ?
- * Is there a place where conversation needs to be added to increase suspense or to move the story along ?

Revising Nonfiction Structure :

- * Can readers find the main idea(s) and supporting ideas in my writing ? Should I "signal" them by underlining, by numbering, by adding headings, or by some other means ?
- * Is the organization clear ? Does the composition have unity and coherence ?
- * Are connections clear ? Are there places where I should add transitions and transitional phrases, such as *so, therefore, if — then, because, since, as a result* ?
- * Is the tone appropriate for the purpose and audience ?

Revising Sentences :

- * Do my sentences read smoothly without making the reader stumble and have to go back to get the meaning ?
- * Are my sentences varied in length and complexity for added interest ?
- * Do my sentences flow smoothly ? Have I used appropriate transitional words and expressions ?
- * Does each sentence have the precise words to carry its meaning ?

- * Can one sentence be combined with another to make the meaning clearer?

Revising Words :

- * Can I make my writing style more direct by striking out "empty" words such as *very* and a *lot* and by using *active* rather than *passive* voice?
- * Have I chosen colorful, vivid words that carry specific meanings?
- * Can I use a more specific descriptive term by finding a synonym in a thesaurus?

e) Editing : of a piece of writing for grammar, usage, mechanics and spelling is to be encouraged. While it can be stultifying to insist that *all* writing be perfect, correct spelling, punctuation, paragraphing and all other rudiments of acceptable form must be taught and applied. Editing needs to be done, before the writer prepares the *final copy* of a written composition. Note that this final copy is a *product*, as distinguished from the *process* with which the earlier drafts were involved. Not all compositions need to be written out as final products. Perhaps one in five may be written as a final draft for the reading pleasure of others—either in class or on the bulletin board, in a class magazine or an anthology for the library.

f. Postwriting: In the past, evaluating writing was frequently over-emphasized to the degree

that students thought the purpose of writing was correctness, instead of the communication of thoughts and ideas. It is important to remember that evaluation should encourage students to write, not stifle their growth. Every piece of writing would carry at least one positive characteristic, praise for what has been done well and suggestions to show how the writing may be improved.

Recent research indicates that reading and writing skills should be taught as the need arises and in meaningful contexts. Your students' reading and writing then becomes the basis for determining which skills to teach and at which time. At the time you identify.

- * weakness in their reading, you will want to develop vocabulary and comprehension.
- * weakness in their writing, you will want to develop language and composition skills, and so on.

For example develop vocabulary skills during prewriting, sentence expansion or reduction skills during revising. Work as much as possible with the language the students produce. When they see how their own writing is improved by varying sentences in their compositions or completing sentence fragments, they are more likely to internalize the skills, and use them effectively in their future writing.

(Contd. from Page 5)

E. Problems With Hidden Operations

To solve some problems, you have to carry out more than one number operation. Try these.

- Potato wafers are Rs. 6/- per packet. Hari buys 3 packets. How much change does he get from a Rs. 20/- note?
- Two friends earned money doing small jobs. One earned Rs. 56/-, Rs. 20/- and Rs. 30. The other earned Rs. 85/-, Rs. 40 and Rs. 35/-. If they decide to share their money equally, how much will each get?

It is important for your students to be aware of these decoding traps. You might like to first explain one or more of these kinds of problems in class, give them some practice and then slip in an odd one or two into an exercise. They will be on their toes and should be able to tell you confidently whether a problem can be solved or not, whether any additional but unnecessary information is presented and whether there is a hidden catch in the problems set. They might gradually begin to consider these as fun; as a challenge.

MATHS CLUB IDEAS

Saroja Sundararajan

The non-terminating repeating decimal of the fraction is shown as an Artificial Geometric Progression (A. G. P.) here. The manipulation is fascinating. Try and find out more such A.G.Ps.

(a) We know that $\frac{1}{7} = 0.\overline{142857}$. This is a repeating non-terminating decimal.

Let us see how we could view this as a Geometric Progression.

The decimal 14, 28, 57 is a near G.P.

We could re-write it thus :

[illegible]

After 56, the terms are displaced and written after two decimal places.

Adding the series, we get the answer, which is 0.142857.

Let us call this an Artificial G.P., where $a=0.14$, $r=0.02$. Therefore

$$S_g = \frac{a}{1-r} = \frac{0.14}{1-0.02} = \frac{1}{7}$$

(b) Repeat the above procedure for the G.P with $a=0.1$ and $r=0.2$ starting from

1 2 4 8
1 6

6 jutting out one decimal place. Go upto 128 and then add up.

What is the fraction ?

1 2 4 8
1 6
3 2
6 4
1 2 8
2 5 6

$$12499936 = 0.1249 = 0.125 = \frac{1}{8}$$

$$= \frac{0.1}{1-0.2} = \frac{1}{8}$$

An Alternative to Classroom Management in Rural Schools-II

(In the first part of this article, the author described an experiment tried out in the rural schools of Andhra. Most of these schools have a single teacher who is required to teach all children from classes I to V, often seated in the same room. They were divided into three groups—beginners average and above-average, based on their proficiency in language, and attempts were made to help them come up to the standard of their respective classes.)

Experiment II : As a result of meetings and discussions with teachers we tried out a class-wise grouping system in the next phase. Instead of being seated in rows, the children of each class form a small circle. This resulted in a change in the teaching process. A teacher teaches one particular class at a time, providing exercises and activities which help them learn quickly. Special attention is paid to classes I and II. The use of teaching aids and language games helps them to master the letters quickly. When the teacher handles the higher classes, a group leader or a student of the higher classes is sent to look after the lower grades. In the higher classes, lessons proceed according to a timetable. When one class is being taught, the others are occupied with copy-writing, rote learning, exercises, dictation, drawing and so on.

A Summary of Our Experiments :

Whichever system is adopted, I strongly feel that teaching in groups is an easy way to educate children. The students learn soon that they must be sensitive to the needs of others in the room and avoid disrupting the classroom atmosphere. A significant change that we observed was that children of all castes sat together in a circle, touching each other, helping each other, conversing and playing with the teaching aids. In earlier days, when the students were seated in rows, they often divided themselves in groups

according to whether they belonged to the upper classes or the socially backward ones. Thus, slowly but surely, a group system will help us overcome these barriers, while at the same time raising academic standards.

Other positive outcomes include :

- * Better relationships between teacher and taught and between the children themselves,
- * Better concentration on the lessons and fewer opportunities to escape from the classroom,
- * Reading, writing exercises can be organised and corrected by the children themselves,
- * Early improvement in the children's abilities,
- * Improvement in the leadership qualities of the children,
- * Development of an attitude of helpfulness towards classmates,
- * Greater ease in handling several classes at the same time and in using games and teaching aids.

We have observed that there is a 53% dropout rate at class I and a 39% dropout rate in classes III to V. To make education more purposeful, it would be better if attention is paid to making the children literate before they complete class III. This would enable them to read and write with ease and grasp other subjects faster in classes IV and V. The teachers too need to be oriented about the system so that they plan effective ways to achieve their goals.

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PROJECTS IN SOCIAL STUDIES

Project work in social studies can be made interesting, useful and creative, but before we start on such work, it is necessary to think about the following :

- i. the scope and objectives of the project, i.e. what skills can be enhanced through a particular project,
- ii. how can the project be made relevant and interesting,
- iii. how can some learning outcomes be ensured,
- iv. the range of possibilities and which projects are viable,
- v. the criteria for evaluation of the project.

Projects may be done in groups or individually, during the academic year or as a part of holiday homework. They may be intended to:

Projects may be done in groups or individually and during the academic year or as a part of holiday work. They may

A. Enhance specific skills such as :-

- i. the skills of collecting and presenting information. Various techniques can be tried out.
- ii. **Collecting information :** surveys, interviews, questionnaires, simple voting sessions in the class, techniques of researching and doing library reference work.
- iii. **Presenting information :** charts, graphs, maps, pie-charts, bulletin-board displays, tables etc.

One activity that might precede the actual project is outlined here. The children may be divided into pairs. Each pair of students is required to collect one or two specified pieces of information about all the members of the class. The information could pertain to physical aspects such as height and weight, or to reading

habits, or it may be about professions of their parents and so on. This survey would help all the children of one class to get to know one another better at the start of a new academic year. Each pair of students could be asked to present their information in writing, choosing suitable format, for display on the bulletin board.

B. Reinforce classroom learning :

Providing experiences which relate classroom lessons to daily life or to the real world. Efforts should be made to provide at least one or two such experiences in the year. School outings and picnics if carefully planned can be utilized effectively. Other possibilities include :

- i. Visits to museums with worksheets and follow-up-discussions
- ii Visits to monuments accompanied by initial preparatory talk and followed by a display, chart or scrap book (of tracings, mappings, photographs etc.)
- iii. Neighbourhood studies to reinforce various concepts in civics-like the functioning of the municipality.
- iv. Interviews with older people about life in their days, to enable children to understand history as a continuous process and to be able to see oneself as a participant in the making of history.

C. Link class-room learning to daily life.

Many of the above techniques can be used for this purpose.

D. Replace classroom learning.

A particular topic for eg civilisation-could be distributed in groups. Each group would collect and present their particular civilisation after suitable research either through bulletin board displays or in a file form or as demonstration lessons to the class using the blackboard.

E. Create an aesthetic appreciation through history :-

eg-To look at the pottery in the Indus Valley, its texture, its colour designs-or through the finer aspects of architectural design.

F. Help to enjoy learning and have fun.

Type of Projects

Due to constraints of time, social studies teachers would have to grab whatever opportunity comes their way and turn it into a learning experience. *It is also important to be very clear about the objectives and intended learning outcomes. Specific guidelines must be prepared for each project and given to the students after being carefully discussed.* (Guidelines for Social Studies projects attached). It is not enough for the children to collect and stick pictures in a scrap book; some opportunities for active learning must be built into the design of the projects.

Some Ideas

- * **Bulletin board displays** after a visit to a monument/museum etc. This could be done as a group.
- * **Preparation of folders/charts** after a visit. This may be done as tourist guide folders-or information hand-outs. Photographs taken by the students, drawings, maps, rubbings could all become a part of this.
- * **Classroom quizzes and brain-storming sessions.** These could be organised by the students.
- * **Magazines—on a particular topic.** This could include preparation of crossword puzzles, mazes, hidden-word puzzles, cut-up pictures to form jig-saw puzzles, interesting facts, clues and answers and so on. Each one of these games and puzzles could be related to the topic. This may be done in the holidays.
- * **Preparation of newspapers.** By cutting and pasting relevant newspaper articles and cuttings the children could make their own

newspaper on a particular topic. An editorial may be added by them.

- * **Folders** with a collection of any relevant article, map, manuscript etc.
- * **Exchange of letters** during the holidays may be a lot of fun and ensure some learning. Students could be asked to visit a monument and write to one friend in the classroom giving information about the monument. Some guidelines would be required. It must also be ensured that each child in the class would write and receive a letter. All the letters can be shared later on.
- * **Classroom mobiles** on ancient man, the Panchayat raj, British Raj, ancient civilisations etc may be prepared. Each child could draw or photocopy and colour one picture. These could be strung together one below the other to represent one aspect of the topic.
- * **Local history projects** through neighbourhood studies interviews, mappings, looking at archival material is a rich experience provided it can be built into the school structure.
- * **Mock parliaments or elections or court sessions** are very useful experiences particularly if these are related to current and topical issues.

These were just a few of the many possibilities that creative and innovative teachers are utilizing and wanted to share.

Criteria for Evaluation.

Some suggestions A project may be evaluated on the basis of the following—

i. Historical quality.

- a) Does the project provide an analysis of data
- b) Does it show accuracy/authenticity
- c) Evidence of research
- d) Grasp of the subject

ii. Adherence to the theme

iii. Quality of presentation

- a) Visual impact/well organised
- b) Clear text
- c) Appropriate & accurate use of maps, pictures etc.

(A sample of an evaluation criteria for social studies projects obtained from the American School is given.

Some Guidelines To Be Kept In Mind While Planning Projects (by Chitra Srinivas)

1. First of all, one has to know what the objectives of the project are—Is it to involve research work, preparing a questionnaire, working in groups (one of these or a combination of a few) ?
2. Keeping these in mind, after choosing a project, one must give guidelines to children i.e. to tell them exactly what is expected of them.
3. It is also important to tell the children how the presentation should be—whether in the form of loose sheets, a chart, a file, a folio or a festoon or a mobile. It is also important to display these for others to see.
4. Projects may be done by individual children or by groups—preferably by groups of 3 or 4

(not more than that). If children are working in groups, they must get time to discuss and work together, with the teacher's help.

5. Projects could be inter-disciplinary e.g. while doing a project where children have to do interviews, the language teachers could help children in framing questions.
6. Evaluation could be only grading of projects—keeping in mind the objectives and other factors. Usually children are quite happy if they get some recognition in the form of open general display of their work.

7. Holiday Homework Projects must be interesting—they should not entail more copying from encyclopaedias. They must involve many activities.

Examples :

1. Exchange of letters between pairs of children in class. These letters may number 3 or 4. They could be descriptions of monuments/ places visited; a story connected with it and aspects of preservation.
 2. It could be a project to study the civic problems of their locality. Activities would include making maps of the area, observing and noting down problems, meeting people in locality, interviews and finding solutions.
- (Contd. on page 15)

* * *

A United Nations volunteer teacher in our school at Punakha, Bhutan, was having a problem with mice in her house and she wrote to her sister in Ireland to send her a mousetrap. When the trap arrived, the Customs Declaration form read, "Mousetrap : educational aid—to teach the mice a lesson."

Daniels Aubrey, Bhutan

When I took our children to Kenya to visit their grandparents, it was the trip of a lifetime : flying in jumbo jets, watching herds of elephant and prides of lions and experiencing all sorts of wonderful new things.

Back at Perth airport, we cleared customs and three-year old Michael rushed up to his waiting father to gasp, "Daddy, guess what ? Grandad can take his teeth out !"

They do say that travel broadens the mind.

Marianne White

(From : THE READER'S DIGEST, August 1987)

(Contd. from page 14)

Project Category—History Day Contest

Student Name (s).....

Title :

Division :

HISTORICAL QUALITY	Marks Pass	Marks Scored	COMMENTS
Provides analysis of data			
Shows accuracy/authenticity			
Grasp of subject topic in historical content			
Evidence of research			
Quality of annotated biblio			
Balanced presentation			
Total			

ADHERENCE TO THEME	Marks Pass	Marks Scored	COMMENTS
Address Theme			
Total			

QUALITY OF PRESENTATION	Marks Pass	Marks Scored	COMMENTS
Visual Impact/well organised			
Text is clear, grammatical, correctly spelled/with literary style			
Creative/original look at topic			
Appropriate and accurate use of maps, pictures etc.			
Total			

FINAL COMMENTS :

SCORING

Sub Totals

Less Deductions

FINAL SCORE

Everyday Things

Such things as paper clips, shoeboxes, marbles, candles, bread, clay, string, and scraps of wood constitute a veritable reservoir of materials for teaching science. They cost little or nothing, yet are often better than expensive items for providing worthwhile experiences. They encourage youngsters to get involved and to use their ingenuity, rather than merely to operate ready-made equipment. Already familiar to pupils, common-place things like these seldom block or distract their thinking in the way strange and complicated apparatus often does.

Many useful odds and ends are available in quantity, enabling all children to engage in explorations, rather than limiting them to watching demonstrations. They permit experiments to be repeated and modified easily. Usually obtainable on short notice, they do not necessitate requisitions, administrative approval, and the delays which too often postpone the arrival of commercial equipment beyond the interest span of children.

With everyday things, pupils need not stop learning science at the close of school, since many of these items are also available around the home. There the children can repeat the experiences they had in school—and then continue with their own ideas and with suggestions from books. Even parents can become involved and not only refresh their understanding of science but also become better acquainted with what the school is doing.

Everyday things can help to provide for individual differences among children—differences in interest, attitude, creativity, dexterity, and academic aptitude. They can be as intriguing and challenging to slow learners and poor readers as to gifted pupils. They enable youngsters to learn with their hands as well as with their minds; yet they place no ceiling on ingenuity or industry.

From: **TEACHING SCIENCE WITH EVERYDAY THINGS** by Victor E. Schmidt and Verne N. Rockcastle

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